IN THE CLAIMS:

1. (Currently amended) A retroviral vector which undergoes promoter conversion comprising in 5' to 3' order,

(a) a 5' long terminal repeat region of the structure U3-R-U5;

(b) one or more coding sequences, said sequences being inserted into the body of the vector; and

(c) a 3' long terminal repeat region comprising a partially deleted U3 region ~~wherein in said partially deleted U3 region~~ into which a polylinker sequence containing a heterologous promoter ~~which is not related to a promoter from a retrovirus upon which the retroviral vector is based is~~ has been inserted, ~~said promoter regulating, after infection of a target cell, expression of said one or more coding sequences~~

wherein after infection of a target cell, said U3 of said 5' long terminal repeat region is replaced by said partially deleted U3 region and said heterologous promoter, resulting in said one or more coding sequences becoming operatively linked to said heterologous promoter and said heterologous promoter regulating expression of said one or more coding sequences in said target cell.

2-4. Canceled.

5. (Currently amended) The retroviral vector according to Claim 1, wherein said ~~heterologous~~ retroviral vector further comprises a regulatory element other than a promoter.

6. Canceled.

7. (Currently amended) The retroviral vector according to Claim [[31]] 1, wherein said heterologous promoter is selected from the group consisting of: a Whey Acidic Protein specific promoter, a Mouse Mammary Tumor Virus specific promoter, β-lactoglobulin and casein specific promoters, a pancreas specific promoter, a

lymphocyte specific promoter, a Mouse Mammary Tumor Virus specific promoter conferring responsiveness to glucocorticoid hormones or directing expression to the mammary gland, and combinations thereof.

8. Canceled.

9. (Previously presented) The retroviral vector according to Claim 1, wherein each long terminal repeat region is derived from a retrovirus selected from the group consisting of Murine Leukaemia Virus, Mouse Mammary Tumor Virus, Murine Sarcoma Virus, Simian Immunodeficiency Virus, Human Immunodeficiency Virus, Human T Cell Leukaemia Virus, Feline Immunodeficiency Virus, Feline Leukaemia Virus, Bovine Leukaemia Virus, Mason-Pfizer-Monkey Virus, and combinations thereof.

10. (Previously presented) The retroviral vector according to Claim 1, wherein said retroviral vector is derived from a BAG vector.

11. (Previously presented) The retroviral vector according to Claim 1, wherein the coding sequences are selected from the group consisting of marker genes, therapeutic genes, antiviral genes, antitumor genes, cytokine genes and combinations thereof.

12. (Previously presented) The retroviral vector according to Claim 11, wherein said marker or therapeutic genes are selected from the group consisting of β-galactosidase gene, neomycin gene, Herpes Simplex Virus thymidine kinase gene, puromycin gene, cytosine deaminase gene, hygromycin gene, secreted alkaline phosphatase gene, guanine phosphoribosyl transferase (gpt) gene, alcohol dehydrogenase gene, hypoxanthine phosphoribosyl transferase (HPRT) gene and combinations thereof.

13. (Previously presented) The retroviral vector according to Claim 1, wherein at least one of said coding sequences is a retroviral coding sequence that is an altered or at least partially deleted retroviral gene.

14. (Original) The retroviral vector according to Claim 1, wherein retroviral sequences involved in integration of retroviruses are altered or at least partially deleted.

15. (Previously presented) The retroviral vector according to Claim 1, wherein said vector comprises one or more sequences homologous to one or more cellular sequences or a part thereof.

16. (Previously presented) The retroviral vector according to Claim 5, wherein said regulatory element is regulatable by transacting molecules.

17. (Currently amended) A retroviral vector kit comprising:

(a) a retroviral vector which undergoes promoter conversion comprising in 5' to 3' order,

~~a)~~(i) a 5' long terminal repeat region of the structure U3-R-U5;

~~b)~~(ii) one or more coding sequences, said sequences being inserted into the body of the vector; and

~~c)~~(iii) a 3' long terminal repeat region comprising a partially deleted U3 region ~~wherein in said partially deleted U3 region~~ into which a polylinker sequence containing a heterologous promoter ~~is~~ has been inserted, wherein ~~said promoter is not related to a promoter from a retrovirus upon which the retroviral vector is based and said promoter regulating,~~ after infection of a target cell, said U3 of said 5' long terminal repeat region is replaced by said partially deleted U3 region and said heterologous promoter, resulting in said one or more coding sequences becoming operatively linked

to said heterologous promoter and said heterologous promoter regulating expression of said one or more coding sequences in said target cell; ~~expression of said one or more coding sequences;~~ and

(b) a packaging cell line ~~harboring~~ comprising at least one retroviral or recombinant retroviral construct coding for proteins required for said retroviral vector to be packaged.

18. (Original) The retroviral vector system according to Claim 17 wherein the packaging cell line harbors retroviral or recombinant retroviral constructs coding for those retroviral proteins which are not encoded in said retroviral vector.

19. (Previously presented) The retroviral vector system according to Claim 17 wherein the packaging cell line is selected from the group consisting of psi-2, psi-Crypt, psi-AM, GP+E-86, PA317, and GP+envAM-12.

20. (Previously presented) A method for introducing homologous or heterologous nucleotide sequences into cells in an animal or cultured cells, said method comprising infecting the cells with recombinant retroviruses produced by the producer cell line of Claim 28.

21. (Previously presented) The method according to Claim 20, wherein the nucleotide sequences are selected from the group consisting of genes or parts of genes encoding for proteins, regulatory sequences and promoters and combinations thereof.

22. (Previously presented) Recombinant retroviral particle obtained by transfecting a packaging cell line of a retroviral vector kit according to Claim 17 with the retroviral vector according to Claim 17, and culturing the cells under suitable conditions.

23. (Previously presented) A retroviral provirus produced by infection of target cells with a recombinant retroviral particle according to Claim 22 whereby the heterologous DNA fragment in the 3' long terminal repeat becomes duplicated during the process of reverse transcription in the target cell and appears in the 5' long terminal repeat as well as in the 3' long terminal repeat of the resulting provirus.

24. (Original) mRNA of the retroviral provirus according to Claim 23.

25. (Original) RNA of a retroviral vector according to Claim 1.

26. (Original) Pharmaceutical composition containing a therapeutically effective amount of a recombinant retroviral particle according to Claim 22.

27. Canceled.

28. (Currently amended) A producer cell line producing a retroviral particle, the producer cell comprising a retroviral vector and a DNA construct coding for proteins required for the retroviral vector to be packaged, said retroviral vector comprising in 5' to 3' order,

a) a 5' long terminal repeat region of the structure U3-R-U5;

b) one or more coding sequences, said sequences being inserted into the body of the vector; and

c) a 3' long terminal repeat region comprising a partially deleted U3 region ~~wherein in said partially deleted U3 region~~ into which a polylinker sequence containing a heterologous promoter ~~is~~ has been inserted,

wherein ~~said promoter is not related to a promoter from a retrovirus upon which the retroviral vector is based and said promoter, regulating,~~ after infection of a target cell, said U3 of said 5' long terminal repeat region is replaced by said partially deleted U3 region and said heterologous promoter, resulting in said one or more coding

sequences becoming operatively linked to said heterologous promoter and said heterologous promoter regulating expression of said one or more coding sequences in said target cell ~~expression of said one or more coding sequences~~.

29. (Previously presented) A recombinant retroviral particle comprising the retroviral vector according to Claim 1.

30. Canceled.

31. (Previously presented) The retroviral vector according to Claim 1, wherein said promoter is target cell specific in its expression.

32. (Previously presented) The retroviral vector according to Claim 5, wherein said regulatory element is target specific in its expression.

33. (Currently amended) A retroviral vector which undergoes promoter conversion comprising in 5' to 3' order,

a) a 5' long terminal repeat region of the structure U3-R-U5;

b) one or more coding sequences, said sequences being inserted into the body of the vector; and

c) a 3' long terminal repeat region comprising a partially deleted U3 region ~~wherein in said partially deleted U3 region~~ into which a polylinker sequence containing a promoter from a cellular gene ~~is~~ has been inserted, ~~said promoter regulating, after infection of a target cell, expression of said one or more coding sequences~~

wherein after infection of a target cell, said U3 of said 5' long terminal repeat region is replaced by said partially deleted U3 region and said promoter from a cellular gene, resulting in said one or more coding sequences becoming operatively linked to said promoter from a cellular gene and said promoter from a cellular gene regulating expression of said one or more coding sequences in said target cell.

34. (Previously presented) The retroviral vector according to Claim 33, wherein said vector further comprises a regulatory element other than a promoter.

35. (Previously presented) The retroviral vector according to Claim 33, wherein said promoter is selected from the group consisting of: a Whey Acidic Protein promoter, β-lactoglobulin and casein specific promoters, a pancreas specific promoter, lymphocyte specific promoters, and combinations thereof.

36. (Previously presented) The retroviral vector according to Claim 33, wherein each long terminal repeat region is derived from a retrovirus selected from the group consisting of Murine Leukaemia Virus, Mouse Mammary Tumor Virus, Murine Sarcoma Virus, Simian Immunodeficiency Virus, Human Immunodeficiency Virus, Human T Cell Leukaemia Virus, Feline Immunodeficiency Virus, Feline Leukaemia Virus, Bovine Leukaemia Virus, Mason-Pfizer-Monkey Virus, and combinations thereof.

37. (Previously presented) The retroviral vector according to Claim 33, wherein said retroviral vector is derived from a BAG vector.

38. (Previously presented) The retroviral vector according to Claim 33, wherein the coding sequences are selected from the group consisting of marker genes, therapeutic genes, antiviral genes, antitumor genes, cytokine genes and combinations thereof.

39. (Previously presented) The retroviral vector according to Claim 38, wherein said marker or therapeutic genes are selected from the group consisting of β-galactosidase gene, neomycin gene, Herpes Simplex Virus thymidine kinase gene, puromycin gene, cytosinedeaminase gene, hygromycin gene, secreted alkaline phosphatase gene, guaninephosphoribosyl transferase (gpt) gene, alcohol

dehydrogenase gene, hypoxanthine phosphoribosyl transferase (HPRT) gene and combinations thereof.

40. (Previously presented) The retroviral vector according to Claim 33, wherein at least one of said coding sequences is a retroviral coding sequence that is an altered or at least-partially deleted retroviral gene.

41. (Previously presented) The retroviral vector according to Claim 33, wherein retroviral sequences involved in integration of retroviruses are altered or at least partially deleted.

42. (Previously presented) The retroviral vector according to Claim 33, wherein said promoter is regulatable by transacting molecules.

43. (Currently amended) A retroviral vector kit comprising:

(a) a retroviral vector which undergoes promoter conversion comprising in 5' to 3' order,

~~a)~~(i) a 5' long terminal repeat region of the structure U3-R-U5;

~~b)~~(ii) one or more coding sequences, said sequences being inserted into the body of the vector; and

~~c)~~(iii) a 3' long terminal repeat region comprising a partially deleted U3 region ~~wherein in said partially deleted U3 region~~ into which a polylinker sequence containing a promoter from a cellular gene ~~is~~ has been inserted, ~~said promoter regulating,~~ wherein after infection of a target cell, said U3 of said 5' long terminal repeat region is replaced by said partially deleted U3 region and said promoter from a cellular gene, resulting in said one or more coding sequences becoming operatively linked to said promoter from a cellular gene and said promoter from a cellular gene regulating expression of said one or more coding sequences in

said target cell; ~~expression of said one or more coding sequences;~~ and

(b) a packaging cell line ~~harboring~~ comprising at least one retroviral or recombinant retroviral construct coding for proteins required for said retroviral vector to be packaged.

44. (Previously presented) The retroviral vector system according to Claim 43 wherein the packaging cell line harbors retroviral or recombinant retroviral constructs coding for those retroviral proteins which are not encoded in said retroviral vector.

45. (Previously presented) The retroviral vector system according to Claim 44 wherein the packaging cell line is selected from the group consisting of psi-2, psi-Crypt, psi-AM, GP+E-86, PA317, and GP+envAM-12.

46. (Previously presented) Recombinant retroviral particle obtained by transfecting a packaging cell line of a retroviral vector kit according to Claim 43 with the retroviral vector according to Claim 43, and culturing the cells under suitable conditions.

47. (Previously presented) A retroviral provirus produced by infection of target cells with a recombinant retroviral particle according to Claim 46 whereby the promoter in the 3' long terminal repeat becomes duplicated during the process of reverse transcription in the target cell and appears in the 5' long terminal repeat as well as in the 3' long terminal repeat of the resulting provirus.

48. (Previously presented) mRNA of the retroviral provirus according to Claim 47.

49. (Previously presented) RNA of a retroviral vector according to Claim 33.

50. (Previously presented) Pharmaceutical composition containing a therapeutically effective amount of a recombinant retroviral particle according to Claim 46.

51. (Currently amended) A producer cell line producing a retroviral particle, the producer cell comprising a retroviral vector and a DNA construct coding for proteins required for the retroviral vector to be packaged, said retroviral vector comprising in 5' to 3' order,

a) a 5' long terminal repeat region of the structure U3-R-U5;

b) one or more coding sequences, said sequences being inserted into the body of the vector; and

c) a 3' long terminal repeat region comprising a partially deleted U3 region ~~wherein in said partially deleted U3 region~~ into which a polylinker sequence containing a promoter from a cellular gene ~~is~~ has been inserted, ~~said promoter regulating, after infection of a target cell, expression of said one or more coding sequences~~

wherein after infection of a target cell, said U3 of said 5' long terminal repeat region is replaced by said partially deleted U3 region and said promoter from a cellular gene, resulting in said one or more coding sequences becoming operatively linked to said promoter from a cellular gene and said promoter from a cellular gene regulating expression of said one or more coding sequences in said target cell.

52. (Previously presented) A method for introducing homologous or heterologous nucleotide sequences into cells in an animal or cultured cells, said method comprising infecting the cells with recombinant retroviruses produced by the producer cell line of Claim 51.

53. (Previously presented) The method according to Claim 52, wherein the nucleotide sequences are selected from the group consisting of genes or parts of

genes encoding for proteins, regulatory sequences and promoters and combinations thereof.

54. (Previously presented) A recombinant retroviral particle comprising the retroviral vector according to Claim 33.

55. (Previously presented) The retroviral vector according to Claim 33, wherein said promoter is target cell specific in its expression.

56. (Currently amended) A retroviral vector which undergoes promoter conversion comprising in 5' to 3' order,

a) a 5' long terminal repeat region of the structure U3-R-U5;

b) one or more coding sequences, said sequences being inserted into the body of the vector; and

c) a 3' long terminal repeat region comprising a partially deleted U3 region ~~wherein in said partially deleted U3 region~~ into which a polylinker sequence containing a heterologous retroviral promoter ~~which is not related to a promoter of a retrovirus upon which the retroviral vector is based is based is~~ has been inserted, ~~said promoter regulating, after infection of a target cell, expression of said one or more coding sequences~~

wherein after infection of a target cell, said U3 of said 5' long terminal repeat region is replaced by said partially deleted U3 region and said heterologous retroviral promoter, resulting in said one or more coding sequences becoming operatively linked to said heterologous retroviral promoter and said heterologous retroviral promoter regulating expression of said one or more coding sequences in said target cell.

57. (Previously presented) The retroviral vector according to Claim 56, wherein said vector further comprises a regulatory element other than a promoter.

58. (Previously presented) The retroviral vector according to Claim 56, wherein said promoter is selected from the group consisting of a Mouse mammary Tumor specific promoter, a Mouse Mammary Tumor Virus specific promoter conferring responsiveness to glucocorticoid hormones or directing expression to the mammary gland, and combinations thereof.

59. (Previously presented) The retroviral vector according to Claim 56, wherein each long terminal repeat region is derived from a retrovirus selected from the group consisting of Murine Leukaemia Virus, Mouse Mammary Tumor Virus, Murine Sarcoma Virus, Simian Immunodeficiency Virus, Human Immunodeficiency Virus, Human T Cell Leukaemia Virus, Feline Immunodeficiency Virus, Feline Leukaemia Virus, Bovine Leukaemia Virus, Mason-Pfizer-Monkey Virus, and combinations thereof.

60. (Previously presented) The retroviral vector according to Claim 56, wherein said retroviral vector is derived from a BAG vector.

61. (Previously presented) The retroviral vector according to Claim 56, wherein the coding sequences are selected from the group consisting of marker genes, therapeutic genes, antiviral genes, antitumor genes, cytokine genes and combinations thereof.

62. (Previously presented) The retroviral vector according to Claim 61, wherein said marker or therapeutic genes are selected from the group consisting of β-galactosidase gene, neomycin gene, Herpes Simplex Virus thymidine kinase gene, puromycin gene, cytosine deaminase gene, hygromycin gene, secreted alkaline phosphatase gene, guanine phosphoribosyl transferase (gpt) gene, alcohol dehydrogenase gene, hypoxanthine phosphoribosyl transferase (HPRT) gene and combinations thereof.

63. (Previously presented) The retroviral vector according to Claim 56, wherein at least one of said coding sequences is a retroviral coding sequence that is an altered or at least partially deleted retroviral gene.

64. (Previously presented) The retroviral vector according to Claim 56, wherein retrovira lsequences involved in integration of retroviruses are altered or at least partially deleted.

65. (Previously presented) The retroviral vector according to Claim 56, wherein said promoter is regulatable by transacting molecules.

66. (Currently amended) A retroviral vector kit comprising:

(a) a retroviral vector which undergoes promoter conversion comprising in 5' to 3' order,

~~a)~~(i) a 5' long terminal repeat region of the structure U3-R-U5;

~~b)~~(ii) one or more coding sequences, said sequences being inserted into the body of the vector; and

~~c)~~(iii) a 3' long terminal repeat region comprising a partially deleted U3 region ~~wherein in said partially deleted U3 region~~ into which a polylinker sequence containing a heterologous retroviral promoter ~~other than which is not related to a promoter from a retrovirus upon which the retroviral vector is based is~~ has been inserted, ~~said promoter regulating,~~ wherein after infection of a target cell, said U3 of said 5' long terminal repeat region is replaced by said partially deleted U3 region and said heterologous retroviral promoter, resulting in said one or more coding sequences becoming operatively linked to said heterologous retroviral promoter and said heterologous retroviral promoter regulating

expression of said one or more coding sequences in said target cell ~~expression of said one or more coding sequences~~; and

(b) a packaging cell line harboring at least one retroviral or recombinant retroviral construct coding for proteins required for said retroviral vector to be packaged.

67. (Previously presented) The retroviral vector system according to Claim 66 wherein the packaging cell line harbors retroviral or recombinant retroviral constructs coding for those retroviral proteins which are not encoded in said retroviral vector.

68. (Previously presented) The retroviral vector system according to Claim 66 wherein the packaging cell line is selected from the group consisting of psi-2, psi-Crypt, psi-AM, GP+E-86, PA317, and GP+envAM-12.

69. (Previously presented) Recombinant retroviral particle obtained by transfecting a packaging cell line of a retroviral vector kit according to Claim 66 with the retroviral vector according to Claim 66, and culturing the cells under suitable conditions.

70. (Previously presented) A retroviral provirus produced by infection of target cells with a recombinant retroviral particle according to Claim 69 whereby the promoter in the 3' long terminal repeat becomes duplicated during the process of reverse transcription in the target cell and appears in the 5' long terminal repeat as well as in the 3' long terminal repeat of the resulting provirus.

71. (Previously presented) mRNA of the retroviral provirus according to Claim 70.

72. (Previously presented) RNA of a retroviral vector according to Claim 56.

73. (Previously presented) Pharmaceutical composition containing a therapeutically effective amount of a recombinant retroviral particle according to Claim 69.

74. (Currently amended) A producer cell line producing a retroviral particle, the producer cell comprising a retroviral vector and a DNA construct coding for proteins required for the retroviral vector to be packaged, said retroviral vector comprising in 5' to 3' order,

a) a 5' long terminal repeat region of the structure U3-R-U5;

b) one or more coding sequences, said sequences being inserted into the body of the vector; and

c) a 3' long terminal repeat region comprising a partially deleted U3 region ~~wherein in said partially deleted U3 region~~ into which a polylinker sequence containing a heterologous retroviral promoter ~~which is not related to a promoter from a retrovirus upon which the retroviral vector is based is~~ has been inserted, ~~said promoter regulating, after infection of a target cell, expression of said one or more sequences selected from coding sequences~~

wherein after infection of a target cell, said U3 of said 5' long terminal repeat region is replaced by said partially deleted U3 region and said heterologous retroviral promoter, resulting in said one or more coding sequences becoming operatively linked to said heterologous retroviral promoter and said heterologous retroviral promoter regulating expression of said one or more coding sequences in said target cell.

75. (Previously presented) A method for introducing homologous or heterologous nucleotide sequences into cells in an animal or cultured cells, said method comprising infecting the cells with recombinant retroviruses produced by the producer cell line of Claim 74.

76. (Previously presented) The method according to Claim 75, wherein the nucleotide sequences are selected from the group consisting of genes or parts of genes encoding for proteins, regulatory sequences and promoters and combinations thereof.

77. (Previously presented) A recombinant retroviral particle comprising the retroviral vector according to Claim 56.

78. (Previously presented) The retroviral vector according to Claim 56, wherein said promoter is target cell specific in its expression.

79-101. Canceled.